



E. St. Louis Terminal 3300 Mississippi Ave. Cahokia, IL. 62206

Phone 618.337.6066 Fax 618.337.5430

## CERTIFIED MAIL RETURN RECEIPT REQUESTED

May 26, 2006

Mr. Nabil Fayoumi
United States Environmental Protection Agency
Region V
Superfund Division
77 W. Jackson Blvd. (SR-6J)
Chicago, IL 60604-3590

RE: Requested Copy of Subsurface Investigation Report for Rogers Cartage Site

Dear Mr. Fayoumi:

In response to our telephone conversation on Thursday, May 25<sup>th</sup>, ConocoPhillips hereby provides you with a copy of the Subsurface Investigation Report – Rogers Cartage Site prepared by ATC Associates, Inc. and dated April 18, 2005. The report summarizes subsurface investigations conducted in February 2005 to define horizontal limits to the previously identified PCB-impacted area on the southern portion of the East St. Louis Terminal.

Draft copies of a work plan and Health and Safety Plan for detailed delineation of the approximately 2.73 acre parcel identified as the "Rogers Cartage Site" were sent to you electronically on Friday, May 26<sup>th</sup>.

If you have any questions or comments about either submittal, please contact me at (618) 255-3190. I look forward to meeting with you to confer on the technical issues relating to this site and the path ahead.

Sincerely,

Eric S. Petersen, Site Manager Risk Management & Remediation

**Enclosure** 

ESP/esp



ATC Project Number 30.75118.0504

## Prepared for:

Mr. Eric Petersen ConocoPhillips Company P.O. Box 76 Roxana, Illinois 62084

April 18, 2005

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30.75118.0504 T-1

April 18, 2005

Mr. Eric Petersen ConocoPhillips Company P.O. Box 76 Roxana, Illinois 62084

Re: Subsurface Investigation Report

Rogers Cartage Site 3300 Mississippi Avenue Cahokia, Illinois

Dear Mr. Petersen:

Please find enclosed a copy of the Subsurface Investigation Report for the Rogers Cartage Site (Site). This report summarizes the subsurface assessment conducted to identify the horizontal extent of the contamination of polychlorinated biphenyls (PCBs) at the Site on February 14 and 15, 2005. The Rogers Cartage Site is located on the southernmost portion of the ConocoPhillips East St. Louis Terminal. The work was conducted in general accordance with our Work Plan dated February 3, 2005.

ATC appreciates the opportunity to be of service to ConocoPhillips. If you have questions regarding the information in this report or if we can be of further assistance, please do not hesitate to contact ATC at (314) 644-2500.

Sincerely,

ATC ASSOCIATES INC.

William W. Kipp

William W. Kipp Project Engineer

SLR/WWK/PLK:slr/wwk

Copies Submitted: Three

i

Patrick L. King, L.P.G.

Senior Project Manager

#### 1.0 EXECUTIVE SUMMARY

- Located eleven previous borings (IMP1-1 through IMP1-5, Drain-1 through Drain-3, and IMP2-1 through IMP2-3) drilled by others using GPS coordinates and field reconnaissance.
- Advanced nineteen new soil borings (SB-1 through SB-19) to a depth of approximately 10 feet below land surface (bls) in and around the area of investigation in a pattern determined by COP.
- One soil boring (IMP1-1A) was advanced to a depth of approximately 6 feet bls in a location that was previously sampled by others and known to contain polychlorinated biphenyls (PCBs) to help verify the zone of contamination, guide sample collection by visual comparison, and calibrate field test kits.
- Soil samples from the twenty soil borings were collected continuously. The sample intervals yielding the most evidence for chemical/solvent contamination were analyzed using a field test kit.
- To confirm the field test kit results, twelve (12) soil samples were transferred to a fixed analytical testing laboratory for further analysis.
- GPS coordinates were recorded for all soil boring locations (previous and new) for future locating purposes.

#### 2.0 INTRODUCTION

The Rogers Cartage Site (Site) is located on the west side of Mississippi Avenue in Cahokia, St. Clair County, Illinois. The Site is located on the southern portion of the ConocoPhillips Company (COP) East St. Louis Terminal. The work area in question was reportedly leased to others in the 1960's.

#### 2.1 PURPOSE

The purpose of this subsurface investigation was to identify an unimpacted horizontal boundary zone surrounding known PCB contamination within the upper 10 feet of soil on the Rogers Cartage Site. This project builds on a previous investigation conducted by others that identified the presence of PCB contamination at certain locations within the Site.

#### 2.2 SITE LOCATION

The Rogers Cartage Site is located on the southern portion of the COP East St. Louis Terminal located at 3300 Mississippi Avenue in Cahokia, St. Clair County, Illinois. A Site Vicinity Map illustrating the topography of the area is included as Figure 1. The Site is surrounded by industrial and commercial facilities. A Terminal Base Map depicting the East St. Louis Terminal is included as Figure 2. The Terminal is owned by ConocoPhillips and is currently operated as a ConocoPhillips pipeline terminal facility.

#### 2.3 SITE HISTORY AND BACKGROUND

The area included in this assessment was leased to Rogers Cartage in the 1960's. Others reportedly performed a previous, limited scope PCB investigation at the Site in early 2004. Reportedly, the results indicated that PCBs were found on the site, but neither the horizontal nor the vertical extents of contamination were delineated.

### 3.0 SITE CONDITIONS

#### 3.1 GEOLOGY

The facility is located in the floodplain of the Mississippi River. As such, the alluvial basin consists of fine grained depositional sequences resulting from normal river processes and flood events. The depositional environment consists of complex sequences of interbedded sands, silts, and clays. At the East St. Louis Terminal, the first 11 to 15 feet bls consists primarily of silts and clays whereas, below 11 to 15 feet the subsurface material is primarily sand.

Soil descriptions at the Site are depicted on the boring logs included in Appendix A. The descriptions of interbedded clays, silts, and sands are consistent with fluvial environments.

#### 3.2 HYDROGEOLOGY

The facility is underlain by a two-layer hydrogeologic system. In the vicinity of the Terminal, this system consists of approximately 11 to 15 feet of interbedded alluvial silt, clay, and sand underlain by fine to medium grained sand. The Site is located approximately 2,000 feet east of the Mississippi River. As a result, groundwater at the Terminal, including the Site, is influenced by seasonal variations of the river stage. Based on groundwater elevation observations, it appears that during the rainy season the finer grained materials within the first 12 to 15 feet of the subsurface limit recharge to the lower hydrogeologic layer resulting in groundwater highs at the facility. During the dry season, groundwater elevation observations indicate a uniform groundwater surface elevation. During the low river stage periods, the groundwater of the lower hydrogeologic layer flows westward towards the river, whereas during the high river stage periods, the groundwater of the lower hydrogeologic layer flows southwestward towards the river, or southeastward during extreme river flooding conditions. Groundwater at the Terminal is also influenced by local recharge within facility impoundments including features such as tank berms, ponds, and low topographical areas. As a result, groundwater in the vicinity of the site may be influenced by these features located east and west of the Rogers Cartage Site or by the tank berm impoundments located north of the Rogers Cartage Site. Groundwater at the Terminal during February 2005 was approximately 10 feet below land surface (bls).

#### 4.0 TECHNICAL DATA

Prior to the initiation of field activities, ATC contacted the State of Illinois utility locator service (JULIE) to locate underground utilities at the site in the vicinity of the Rogers Cartage Site. Additionally, ATC contacted terminal personnel to determine the location of terminal utilities, conduits, and pipe lines in the vicinity of the Rogers Cartage Site. ATC arranged a joint meeting with utility representatives contacted by JULIE and terminal personnel on the morning of the first day of drilling.

In addition, to minimize the risk of potential exposure to chemical and physical hazards associated with the subsurface investigation activities, ATC prepared a site-specific Health and Safety Plan to address hazards unique to the Rogers Cartage site.

#### 4.1 DRILLING AND SAMPLING

On February 14 and 15, 2005 a total of twenty (20) soil borings (SB-1 through SB-19, and IMP1-1A) were advanced around the perimeter of the previous soil boring locations, refer to Figure 3 for boring locations. Borings locations were initially checked with a T-handle probe using hand pressure to reduce the potential for contact with underground utilities when drilling. The soil borings were then advanced to an approximate depth of 10 feet bls, with the exception of boring IMP1-1A which was advanced to approximately 6 feet bls. Borings were advanced with a direct push probe rig operated by MRK Environmental Drilling of Waterloo, Illinois. The borings were sampled on a continuous basis using three-foot stainless steel samplers and acetate liners.

An ATC Geologist was onsite during the investigation activities to oversee the drilling. Soil samples were collected on a continuous basis to the terminus of each boring. Soil was visually classified in accordance with the Unified Soil Classification System (USCS). Soil samples were inspected for staining, odors, and other indications of chemical impact. Soil samples were field screened for the presence of volatile organic vapors (VOVs) with a photoionization detector (PID). Geologic conditions as well as the PID field screening measurements were recorded on the soil boring logs provided in Appendix A.

The soil sample yielding the greatest evidence of chemical/solvent contamination in each boring was analyzed using a field test kit (results in Table 1). Based on field test kit results, 12 samples were sent to the fixed laboratory for further analysis. Soil samples were transferred into laboratory supplied sample containers and placed in an ice-filled cooler for subsequent analysis. The soil samples were submitted using standard chain-of-custody procedures to Severn Trent Laboratory (STL) in Pensacola, Florida and analyzed for PCBs using USEPA Method 8082.

Sampling equipment was decontaminated between borings using a non-phosphate solution and clear water rinse. Soil borings were backfilled with hydrated bentonite and capped at the surface to match existing surfaces.

### Subsurface Investigation Report Rogers Cartage Site

3300 Mississippi Avenue Cahokia, Illinois

Soil cuttings, decontamination water, and PPE generated during the installation of the soil borings were containerized in two 55-gallon steel drums that were temporarily stored on-site pending analytical results and disposal arrangements.

#### 4.2 SOIL SAMPLE RESULTS

### EnviroLogix PCB Field Test Kit Analysis

Soil with PCB impact causes a colorimetric change in the EnviroLogix PCB field test kit. This color change may then be compared to the calibrators set up for a given area of investigation. The standard calibrators of 1 part per million (ppm) and 10 ppm were used for this investigation. Therefore, results of the field test kits should indicate if a soil sample contained less than 1 ppm, between 1 and 10 ppm, or greater than 10 ppm of PCBs. The field test kits indicated 6 samples above 10 ppm, 1 sample between 1 ppm and 10 ppm, and 13 samples below 1 ppm. The field test kit results are summarized in Table 1. The manufacturer of the field test kits (EnviroLogix located in Portland, ME) concurred with ATC's recommendation for fixed analytical laboratory verification of field testing results. As such, twelve soil samples were sent to the analytical laboratory for PCB analysis from the Rogers Cartage Site.

#### Fixed Laboratory Analysis

Laboratory analytical results from STL are included in Appendix B, and a summary of the soil concentrations is included in Table 1. Laboratory analysis indicated that PCB concentrations in soil samples taken from ten of the twelve submitted soil samples were below guidelines contained in 40 CFR 761 Subpart N which indicates a cleanup level of 25 ppm for low occupancy areas. Two of the boring locations did contain results above guidelines; the soil sample from verification boring IMP 1-1A (twin to boring IMP 1-1) contained 2,400 ppm and the soil sample from location SB-5 contained 47 ppm.

#### 5.0 CONCLUSIONS

Based on the STL laboratory analytical results, PCB impact above 40 CFR 761 Subpart N (25 ppm) was present at two boring locations; IMP 1-1A and SB-5. The two impacted borings are located in a north-south trend and appear to be surrounded by low level or non-detect borings. Although ATC did not review specific analytical results from the previous investigation, borings in the February 2005 investigation appear to provide horizontal limits to the PCB-impacted area. The results of this investigation appear to be conclusive enough to construct a remediation "exclusion zone". ATC is equipped to assist COP with additional horizontal and vertical delineation activities if deemed necessary in the future to evaluate remedial alternatives.

Regarding field test kit accuracy, analysis with field test kits and fixed laboratory analysis are in general agreement with two exceptions; field test kits indicated PCB impact above 10 ppm in SB-9 and SB-11. Soil from both locations was below 10 ppm according to STL laboratory analysis. This indicates a false positive in the field test kits. (A false positive is a field indication that a constituent is present that is disputed by fixed analytical laboratory results.) Some false positives are not surprising as, according to EnviroLogix, the field test kits are conservative and tend to error on the side of false positives by design. This is supported by the

## **Subsurface Investigation Report Rogers Cartage Site**

3300 Mississippi Avenue Cahokia, Illinois

fact that no false negatives were reported. (A false negative is a field indication that a constituent is not present but the fixed analytical laboratory indicates that it is present.)

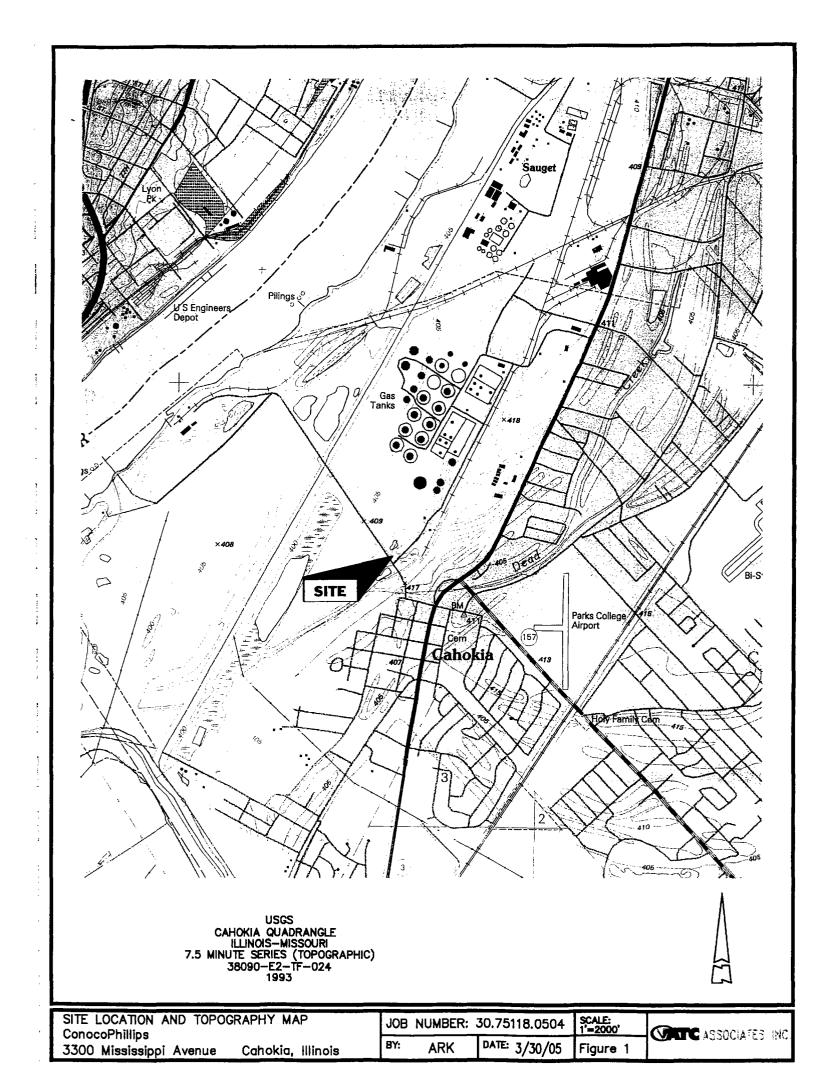
By comparison, there were 10 corroborated results between the field test kits and the analytical laboratory and two (2) discrepancies. Therefore, according to this investigation, the field test kits are approximately 83 percent effective at locating elevated levels of PCB contamination. Equally important is the fact that no false negatives were identified during the investigation lending credibility to the value of the field test kits and method of investigation. ATC concludes that the field test kits and subsurface investigation conducted are appropriate and effective at helping to determine the presence or absence of PCB contamination.

<u>TABLE 1</u> 30.75118.0504 T-1

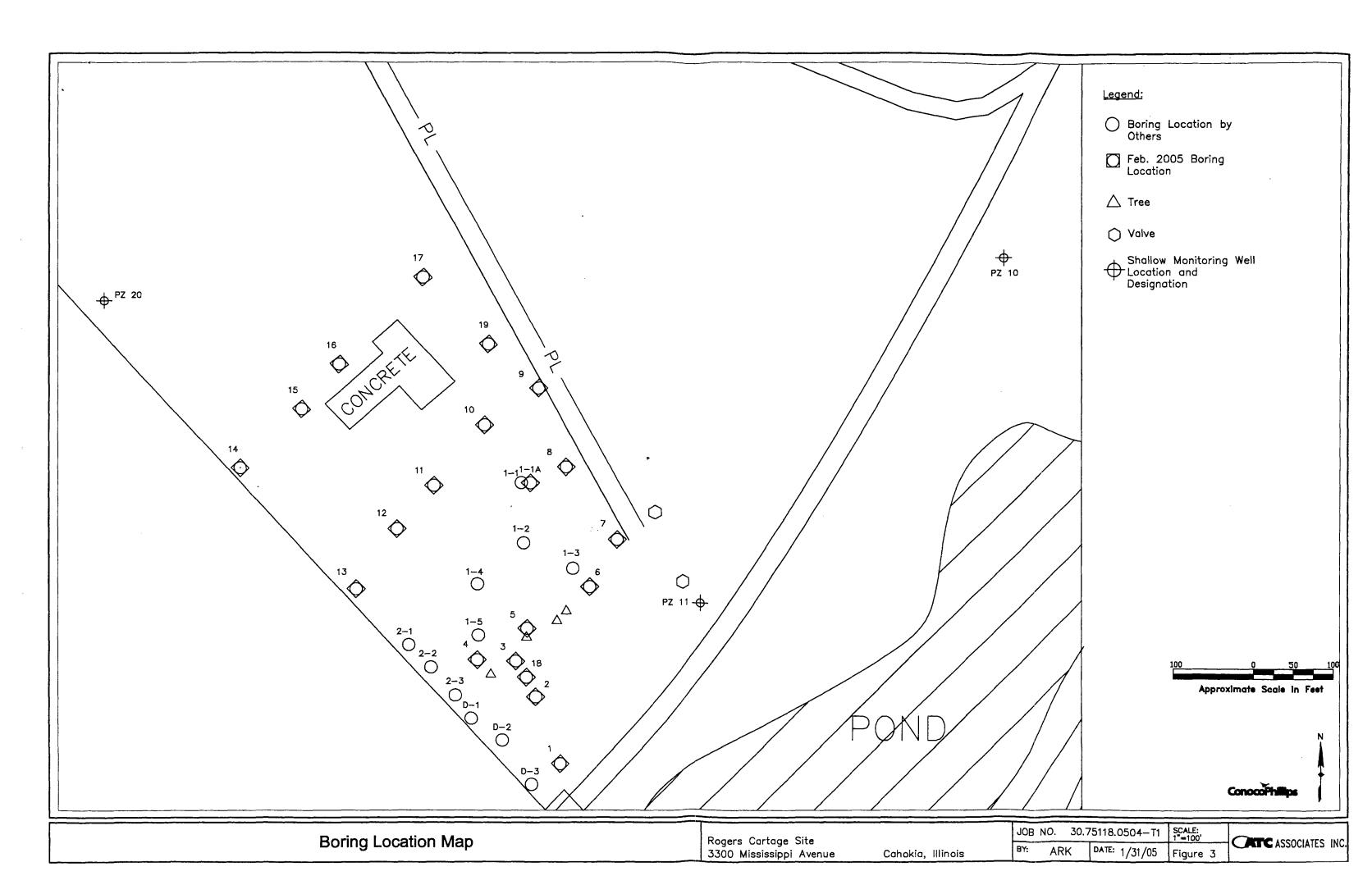
# SUMMARY OF SOIL ANALYTICAL RESULTS ROGERS CARTAGE SITE CAHOKIA, ILLINOIS

Sample   Name   Interval   Date   Tring   (PPM)   Latitude   Longitude   Sample   Name   Interval   Date   Tring   (PPM)   Latitude   Longitude   Sample		T============				<del></del>	<u> </u>	<del></del>		aboratory A	nalytical Re	sults (mg/kg	)	
SB-1								016						560
SB-1								3-1(	2.4	3-17	3-17	3-12	3-12	3.7
SB-1		]						SCE.	5	) C	SCE.	Š	CE	B
SB-1		}			Field Test PCB			or F	l ic	or F	3.10	, i	or F	2
SB-1	Sample	Sample			Concentration			SCK	Scle	ock	ock	헣	)C	j j
SB-2	Name	Interval	Date		(PPM)	Latitude	Longitude				Arc		Arc	
SB-3	SB-1				<1	38.57340	-90.19273	<0.021	<0.021				<0.021	
SB-4	SB-2	(4-6)			<1	38.57368								NA
SB-4 (8-10)	SB-3	(8-10)	02/14/05		<1	38.57378	-90.19288		NA				NA	NA
SB-6   (4-6)		(8-10)	02/14/00		<1			<0.023	<0.023	<0.023	<0.023	1	<0.023	<0.023
SB-7	SB-5	(6-8)		1635	L	38.57389	-90.19283	<0.47	<0.47	<0.47	<0.47	47	<0.47	<0.47
SB-8	SB-6				>1 and <10	38.57401		<0.110	<0.110	<0.110	<0.110			
SB-8   (4-6)	SB-7	(0-2)	02/15/05	0830	<1	38.57416	-90.19238	NA	NA	NA	NA	NA	NA	NA
SB-10   (4-6)   (4-6)   (4-6)   (4-6)   (5-8)   (5-8)   (1230   >10   38.57456   -90.19291   NA   NA   NA   NA   NA   NA   NA   N	SB-8	(4-6)	02/15/05	0845	<1	38.57442	-90.19253	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024
SB-11	SB-9	(2-4)		1150	>10	38.57469	-90.19263	<0.110	<0.110	<0.110	<0.110	2.2	<0.110	<0.110
SB-12	SB-10	(4-6)		1230	>10	38.57456	-90.19291	NA	NA	NA	NA	NA	NA	NA
SB-13	SB-11	(6-8)	02/14/05	1250	>10	38.57439	-90.19315	<0.230	<0.230	<0.230	<0.230	5.5	<0.230	<0.230
SB-14   (2-4)   (6-8)   (6-9	SB-12	(0-2)	] [		>10	38.57426	-90.19333	NA	NA	NA	NA	NA	NA	NA
SB-15   (6-8)   (6-8		(4-6)			<1	38.57414	-90.19354	<0.110	<0.110	<0.110	<0.110	0.7	<0.110	<0.110
SB-16	SB-14	(2-4)		0940	<1	_38.57457	-90.19392	NA	NA	NA	NA	NA	NA	NA
SB-17   (2-4)   (2-4)   (2-4)   (3-4	SB-15	(6-8)	] [	0930	<1	38.57474	-90.19361	NA	NA	NA	NA	NA	NA	NA
SB-17   (2-4)   0905   <1   38.57516   -90.19301   NA		(0-2)	02/15/05	0915	<1	38.57487	-90.19344	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
SB-19	SB-17	(2-4)	02/15/05	0905	<1	38.57516	-90.19301	NA	NA	NA	NA	NA	NA	NA
IMP1-1A   (2-4)   02/14/05   1310   >10   38.57438   -90.19267   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460   <0.460			] [			38.57382	-90.19272	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022
MP1-1	SB-19	(0-2)		1235	<1	38.57494	-90.19287	<0.021	<0.021	<0.021	<0.021	0.22	< 0.021	<0.021
MP1-2   MP1-3   MP1-4   MP1-5   No information provided, other locations from previous subsurface investigation   MP2-1   MP2-3   MP2-3   Drain-1   Drain-2   MP1-2   MP1-3   MP2-3   MP2-4   MP2-3   MP2-5   MP2-6   MP2-6   MP2-7   MP2-7	IMP1-1A	(2-4)	02/14/05	1310	>10	38.57438	-90.19267	< 0.460	<0.460	<0.460	< 0.460	2,400,00	< 0.460	< 0.460
IMP1-3   IMP1-4   IMP1-5   No information provided, other locations from previous subsurface investigation   Drain-1   Drain-2   IMP1-3   No information provided, other locations from previous subsurface investigation   38.57410   -90.19299   38.57389   -90.19299   38.57389   -90.19299   38.57389   -90.19299   38.57381   -90.19340   previous subsurface investigation   previous subsurface investigation   38.57381   -90.19299   38.57381   -90.19340   previous subsurface investigation   previous subsurface investigation   38.57381   -90.19299   38.57381   -90.19299   38.57389   -90.19299   -90.19299   -90.19299   -90.19299   -90.19299   -90.19299   -90.19299   -90.19299   -90.19299   -90.19299   -90.19299   -90.19299   -90.19299   -90.19299   -90.19299   -90.19299   -90.1	IMP1-1					38.57438	-90.19267							1
IMP1-4   IMP1-5   No information provided, other locations from previous subsurface investigation   Sa.57389   -90.19299   38.57389   -90.19299   38.57389   -90.19340   Sa.57381   -90.19324   Sa.57381   -90.19324   Sa.57371   -90.19315   Sa.57360   -90.19308   Sa.57349   -90.19296   Sa.57349   -90.19296   Sa.57349   -90.19296   Sa.57349   -90.19296   Sa.57349   -90.19296   Sa.57349   -90.19296   Sa.57349   -90.19299   Sa.57389   -90.19299   -90.19299   Sa.57389   -90.19299   Sa.57389   -90.19299   Sa.57389   -90.19299   Sa.57389   -90.19299   Sa.57389   -90.19299	IMP1-2	1				38.57421	-90.19276	:						
MP1-5	IMP1-3	]				38.57410	-90.19255							
MP2-1   No information provided, other locations from previous subsurface investigation   38.57399   -90.19340   38.57381   -90.19324     MP2-3     Drain-1   Drain-2   38.57349   -90.19308   38.57349   -90.19296     No information provided, other locations from previous subsurface investigation   No information provided, other locations from previous subsurface investigation   38.57381   -90.19324     38.57371   -90.19315     38.57360   -90.19308     38.57349   -90.19296     38.57349   -90.19340     38.57381   -90.19324     38.57381     38.57381   -90.19324     38.57381   -90.19324     38.57381   -90.19324     38.57381   -90.19324     38.57381   -90.19324     3	IMP1-4	]				38.57408	-90.19299							
MP2-1   from previous subsurface investigation   38.57399   -90.19340	IMP1-5	] No. :-		بمطلعة المصادئين	. 14!	38.57389 ,	-90.19299							
MP2-2     38.57381   -90.19324     38.57371   -90.19315	IMP2-1	1	•			38.57399	-90.19340	-9(1 193ZI) I						
IMP2-3     38.57371     -90.19315       Drain-1     38.57360     -90.19308       Drain-2     38.57349     -90.19296	IMP2-2	1 rom	previous su	osunace inve	esugation		<del></del>			previous s	iubsurface in	vestigation		
Drain-1         38.57360         -90.19308           Drain-2         38.57349         -90.19296		1												
Drain-2 38.57349 -90.19296		1												İ
		1												
	Drain-3	1				38.57333	-90.19287							

PCB Cleanup Standard (low occupancy areas) by 40 CFR 761 Subpart N <25 ppm







## APPENDIX A

Soil Boring Logs



## **BORING NUMBER IMP1-1A**

LOCA DRIL SAMA GRO TOP LOGA	ATION LING M PLING I UND EL OF CAS	3300 ETHO METHO EVAT SING _ S.	) Missis D _ Dii DD _ C ION Ruckna	ssip rect Cont	pi Aver Push inuous	nue, Ca	ahokia,	Illinois	DATE COMPLETED _2/14/05  CASING TYPE/DIAMETER  SCREEN TYPE/SLOT  GRAVEL PACK TYPE  GROUT TYPE/QUANTITY  DEPTH TO WATER  GROUND WATER ELEVATION	
PID (ppm)	BLOW	RECOVERY (%)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC	COMMENTS	LITHOLOGIC DESCRIPTION	CONTACT
1.8 78		100	CT 1			CL CL		(2'-4')	Moist, brown silty clay, dry.  Black staining, sticky material, silty clay, strong odor.	
41			2		5 —				Grey increasing sand, sandy silty clay.  Bottom of borehole at 6.0 feet.	6.0



## BORING NUMBER SB-1 PAGE 1 OF 1

	PROD LOCA DRIL SAMI GRO TOP	JECT NATION LING M PLING I UND EL OF CAS	3300 ETHO METHO LEVAT SING S.	East O Missi D Di OD C ION Ruckn	St. ssip irection	opi Aver t Push tinuous	ermina	ahokia	a, Illinois	DATE STARTED _2/14/05  DATE COMPLETED _2/14/05  S CASING TYPE/DIAMETER  SCREEN TYPE/SLOT  GRAVEL PACK TYPE  GROUT TYPE/QUANTITY  DEPTH TO WATER  GROUND WATER ELEVATION	
	PID (ppm)	BLOW COUNTS	RECOVERY (%)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC	COMMENTS	LITHOLOGIC DESCRIPTION	CONTACT
	<1		100	CT 1						Soft, unconsolidated sandy silt, brown.	
	1.1		100	CT 2			ML		(2'-4')	Very moist.	
			1			5 -				Dry fine grain sand, unconsolidated, tan in color.	5.0
	<1		100	3 3		-					
	<1		100	CT 4		10	SP				10.0
					!					Bottom of borehole at 10.0 feet.	
BORING/WELL CONSTRUCTION FEB B-LOGS.GPJ ATC WELL.GDT 3/31/05											



## **BORING NUMBER SB-2**

PROD LOCA DRILI SAME GROU TOP ( LOGO	JECT NATION LING M PLING I UND EL OF CAS GED BY	AME _ 3300 IETHO METHO EVAT SING _ ( _ S.	East: 0 Missis 0 Di 0 Di 0 C 10N Ruckna	St. I ssip irect Conti	ppi Aven t Push tinuous	ermina nue, Ca	al ahokia,	, Illinois	DATE STARTED 2/14/05  DATE COMPLETED 2/14/05  CASING TYPE/DIAMETER  SCREEN TYPE/SLOT  GRAVEL PACK TYPE  GROUT TYPE/QUANTITY  DEPTH TO WATER  GROUND WATER ELEVATION	
PID (ppm)	BLOW	RECOVERY (%)	т —	EXTENT			GRAPHIC LOG	T T	LITHOLOGIC DESCRIPTION	CONTACT
<1 1.1		100	CT 1						Firm, brown silty clay, moist.	
1.1		66	CT 2		5 —	CL		(4'-6')	Increased sand.	
1.5		100	CT 3						Saturated, brown silty sandy clay, soft.	
1.1		100	СТ 4		10	SP			Fine grain sand, soft, unconsolidated, moist.  Bottom of borehole at 10.0 feet.	9.0



## **BORING NUMBER SB-3**

PROD LOCA DRIL SAMI GROU TOP	ATION LING M PLING I UND EL OF CAS GED BY	AME  3300  SETHO  METHO  EVAT  SING  S.	East O Missis D Di OD C ION Ruckn	St. I ssip rect Cont	Louis T pi Aver Push inuous	ermina	al ahokia,	Illinois	DATE STARTED _2/14/05  DATE COMPLETED _2/14/05  CASING TYPE/DIAMETER  SCREEN TYPE/SLOT  GRAVEL PACK TYPE  GROUT TYPE/QUANTITY  DEPTH TO WATER  GROUND WATER ELEVATION	
PID (ppm)	BLOW	RECOVERY (%)	SAMPLE 1D.	EXTENT	DEPTH (ff. BGL)	U.S.C.S.	GRAPHIC LOG	COMMENTS	LITHOLOGIC DESCRIPTION	CONTACT
1.3		66	CT 1						Greyish-brown, sandy silty clay, moist, stiff.	
2.0		100	CT 2		5 -	CL				
2.7		100	СТ 3					8'-10'	Very moist.	
		100	CT 4		- 10	SP			Unconsolidated fine grain sand, moist, tan in color.  Black sand.  Bottom of borehole at 10.0 feet.	9.0



## **BORING NUMBER SB-4**

1	3				-				1 ax 314-044-4000	
					511 <u>8.05</u>				DATE STARTED 2/14/05	
									DATE COMPLETED 2/14/05	
									S CASING TYPE/DIAMETER	
DRIL	LING N	IETHO	<b>D</b> _D	irec	t Push				SCREEN TYPE/SLOT	
SAMI	PLING	METH	OD(	Con	<u>tinuous</u>				GRAVEL PACK TYPE	
GRO	UND EI	_EVAT	ION _						GROUT TYPE/QUANTITY	
TOP	OF CAS	SING							DEPTH TO WATER	
LOG	GED BY	/ <u>. s.</u>	Ruckn	age	el				GROUND WATER ELEVATION	
REMA	ARKS									
		≿		T.	Γ		10	2		-
PID (ppm)	BLOW	RECOVERY (%)	SAMPLE ID	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	COMMENTS		CONTACT
Ω (	32	80	<u> </u>		H H	S.	\$3	ΣM	LITHOLOGIC DESCRIPTION	N G
ā	-0	R.	SA	Щ		>	Ö	8		80
2.1		50	CT 1	1					Brown, stiff, moist silty clay.	
			,		-	-				
					1					
2.1										
		100	СТ	1	+ -	-			Sandy clay.	
		100	2	H					Sandy Clay.	
1.5			1		_	CL				ļ
					<u></u> 5 −	-				
<1		100	CT 3		† -				Black, sandy clay, strong odor.	
			3		-	-				
Ì			-			1				8.0
1.5								8'-10'	Black silty sand, strong odor, saturated.	
		100	СТ		-	SM				
		100	4	!	40					10.0
					10-				Bottom of borehole at 10.0 feet.	
	1		1							
						1				
					1	!				
			)							
			}	1						
	}			1			) 			
					[					
			ļ		]			ļ		
i i										
								1		



## **BORING NUMBER SB-5**

PROD LOCA DRIL SAM GRO TOP LOGO	JECT N ATION LING M PLING I UND EL OF CAS GED BY	3300 SETHO METHO EVAT SING S.	East  O Missi  D _ Di  OD _ C  ION _  Ruckn	St. issig irec Conf	opi Aver t Push tínuous	ermina nue, Ca	al ahokia,	Illinois	DATE STARTED _2/14/05  DATE COMPLETED _2/14/05  CASING TYPE/DIAMETER  SCREEN TYPE/SLOT  GRAVEL PACK TYPE  GROUT TYPE/QUANTITY  DEPTH TO WATER  GROUND WATER ELEVATION	
PID (ppm)	BLOW	RECOVERY (%)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	COMMENTS	LITHOLOGIC DESCRIPTION	CONTACT
<1		100	CT 1			CL			Moist, stiff brown silty clay.	
<1		100	СТ 3		5 -	SP		(6'-8')	Black, saturated, soft, strong odor, fine grain sand.	6.0
		100	CT 4		10				Bottom of borehole at 10.0 feet.	10.0



BORING/WELL CONSTRUCTION FEB B-LOGS.GPJ ATC WELL.GDT 3/31/05

#### 8233 Brentwood Industrial Drive St. Louis, Missouri 63144 314-644-2500 Fax 314-644-4838

## **BORING NUMBER SB-6**

PROJ LOCA DRILI SAME GROU TOP (	ATION LING M PLING JND EI OF CAS	AME  3300  METHO  METHO  LEVAT  SING  S.	East D Missis D Di DD C ION Ruckna	St. I ssip rect Cont	Louis T pi Aver Push inuous	ermina nue, Ca	il ahoki <u>a,</u>	Illinois	DATE STARTED 2/14/05  DATE COMPLETED 2/14/05  CASING TYPE/DIAMETER  SCREEN TYPE/SLOT  GRAVEL PACK TYPE  GROUT TYPE/QUANTITY  DEPTH TO WATER  GROUND WATER ELEVATION	
PID (ppm)	BLOW	RECOVERY (%)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	COMMENTS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
<1		100	CT 1		5 —	CL		(4'-6')	Brown silty clay, moist. Increased sand to 9 feet.	
<1		100	СТ 3							9.0
		100	CT 4		10	SP			Fine grain sand, grey, saturated.	10.0



## **BORING NUMBER SB-7**

PROD LOCA DRILL SAME GROU TOP ( LOGO	ATION LING M PLING I JND EL OF CAS GED BY	AME  3300  IETHO  METHO  EVAT  SING  S.	East D Missi D Di DD C ION Ruckn	St. I ssip irect Cont	Louis T pi Aver Push inuous	ermina nue, Ca	ahokia	, Illinois	DATE STARTED 2/15/05  DATE COMPLETED 2/15/05  CASING TYPE/DIAMETER  SCREEN TYPE/SLOT  GRAVEL PACK TYPE  GROUT TYPE/QUANTITY  DEPTH TO WATER  GROUND WATER ELEVATION	
PID (ppm)	BLOW	RECOVERY (%)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	COMMENTS	LITHOLOGIC DESCRIPTION	CONTACT
<ul><li>3.6</li><li>4.5</li><li>4.1</li></ul>		100	CT 1			CL		(0-2')	Brown, firm moist silty clay.	
3.5		100	СТ 3		- 5 -	ML			Brown, saturated, sandy silt, soft.	5.0
4.1		100	CT 4			SP		-	Brown, unconsolidated, fine grain sand, soft.  Bottom of borehole at 10.0 feet.	10.0



### 8233 Brentwood Industrial Drive St. Louis, Missouri 63144 314-644-2500

## **BORING NUMBER SB-8**

•	AS								Fax 314-644-4838	
	JECT N								DATE STARTED 2/15/05	
									DATE COMPLETED 2/15/05	
									S CASING TYPE/DIAMETER SCREEN TYPE/SLOT	
									GRAVEL PACK TYPE	
									GROUT TYPE/QUANTITY	
									DEPTH TO WATER	
									GROUND WATER ELEVATION	
REM.	ARKS									
PID (ppm)	BLOW	RECOVERY (%)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	COMMENTS	LITHOLOGIC DESCRIPTION	CONTACT
5.2	-	66	СТ		-			-	Brown, moist, silty clay.	
			1							
						CL				
5.1										
		100	CT 2		-					
5.6	1		_		-			(4'-6')	Saturated, black, strong odor, sandy silt.	4.0
					   5	1				
		[	}		<u> </u>					
2.4		100	CT 3			İ			Grey, saturated, grey sandy silt.	
					-	ML				
2.7					-	1				
1					_					
	]	100	CT 4							10.0
					-10-	_			Bottom of borehole at 10.0 feet.	10.0
								ı		
			l							
		i				i		}		
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## BORING NUMBER SB-9 PAGE 1 OF 1

PROD LOCA DRIL SAMI GROU TOP	ATION LING M PLING I UND EL OF CAS BED BY	AME _ 3300 IETHO METHO .EVAT SING _ S.	East D Missis D Di DD C ION Ruckna	St. I ssip rect Cont	Louis T pi Aver Push inuous	ermina	ahokia,	Illinois	DATE STARTED _2/14/05  DATE COMPLETED _2/14/05  CASING TYPE/DIAMETER  SCREEN TYPE/SLOT  GRAVEL PACK TYPE  GROUT TYPE/QUANTITY  DEPTH TO WATER  GROUND WATER ELEVATION	
PID (ppm)	BLOW	RECOVERY (%)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	COMMENTS	LITHOLOGIC DESCRIPTION	CONTACT
2.8		100	CT 1					(2'-4')	Brownish-grey, moist, silty clay, firm.	
<1		100	СТ 3		5 	CL			Very moist, brown, some sand and silt (sandy clay), soft.	
<1		100	CT 4		10-	SP			Grey clay, saturated, soft.  Fine grain sand, brown, saturated, unconsolidated, soft.  Bottom of borehole at 10.0 feet.	9.0



## **BORING NUMBER SB-10**

PROD LOCA DRIL SAM GRO TOP	ATION LING M PLING UND EL OF CAS	AME  3300 IETHO METHO EVAT SING ( S.	East  D Missi  D D  OD ( ION _  Ruckn	St. issir irec Con	Louis Topi Aver t Push tinuous	ermina nue, C	al ahokia,	Illinoi	DATE STARTED 2/14/05  DATE COMPLETED 2/14/05  S CASING TYPE/DIAMETER  SCREEN TYPE/SLOT  GRAVEL PACK TYPE  GROUT TYPE/QUANTITY  DEPTH TO WATER  GROUND WATER ELEVATION	
PID (ppm)	BLOW	RECOVERY (%)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	COMMENTS	LITHOLOGIC DESCRIPTION	CONTACT
2		100	CT 1			CL		(4'-6')	Brown, firm, moist silty clay.  Brown, moist, silty sandy clay, firm.  Moist, brown to black, with organic debris and pebbles, silty clay, soft.	
2		66	CT 3		5			(+ 0)	Saturated, black fine grain sand, with few pebbles, soft.	8.0
		100	CT 4		10	SP			Bottom of borehole at 10.0 feet.	10.0



## **BORING NUMBER SB-11**

DRILI SAMI GROU TOP ( LOGO REMA	LING M PLING UND EL OF CAS GED BY ARKS	IETHOI METHO LEVATI SING _ ( _ S.	D Di DD C ION  Ruckn	Cont	t Push tinuous				CASING TYPE/DIAMETER SCREEN TYPE/SLOT GRAVEL PACK TYPE GROUT TYPE/QUANTITY DEPTH TO WATER GROUND WATER ELEVATION	
PID (ppm)	BLOW	RECOVERY (%)	SAMPLE ID	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	COMMENTS	LITHOLOGIC DESCRIPTION	CONTACT
2.7		66	CT 2		- 5 -	CL		(6'-8')	Moist, dark brown to black sandy clay.  Saturated, black sandy clay.  Nothing recovered after 7.5 feet.  Bottom of borehole at 10.0 feet.	10.0



## **BORING NUMBER SB-12**

PRO LOC. DRIL SAM GRO TOP LOG	JECT NATION LING M PLING UND EI OF CAS	AME  3300  STHOMETHOMETHOME  SING  S.  S.	East D Missi D Di DD C ION Ruckn	St. ssip rect Conf	Louis Topi Aver Push tinuous	ermina	al ahokia	, Illinois	DATE STARTED 2/14/05  DATE COMPLETED 2/14/05  CASING TYPE/DIAMETER  SCREEN TYPE/SLOT  GRAVEL PACK TYPE  GROUT TYPE/QUANTITY  DEPTH TO WATER  GROUND WATER ELEVATION	
PID (ppm)	BLOW	RECOVERY (%)	SAMPLE ID.	EXTENT	_	U.S.C.S.	GRAPHIC LOG	(0)	LITHOLOGIC DESCRIPTION	CONTACT
3		33	CT 1					(0-2')	Brown, moist sandy silt.	
		0	CT 2		- 5 -	ML				
<1		100	CT 3						Grey, sandy silty clay, saturated, unconsolidated, soft.	6.0
<1		100	CT 4		10-	CL			Bottom of borehole at 10.0 feet.	10.0
						l				
_										



## **BORING NUMBER SB-13**

DRILI SAMF GROU TOP ( LOG(	ING M PLING I JND EL DF CAS SED BY	3300 IETHO METHO EVAT SING S.	Missi D Di DD C ION	ssip rect Cont agel	pi Aver Push inuous	nue, Ca	ahokia,	Illinois	GROUT TYPE/QUANTITY  DEPTH TO WATER  GROUND WATER ELEVATION	
PID (ppm)	BLOW	RECOVERY (%)	SAMPLE ID.	$\top$		U.S.C.S.	GRAPHIC LOG	COMMENTS	LITHOLOGIC DESCRIPTION	CONTACT
1.1		100	CT 1						Brown, very stiff, moist, silty clay.	
1.2		66	СТ 3		5 -	CL		(4'-6')	Saturated, brown, sandy silty clay.	
<1		100	CT 4		- 10	 			Saturated, greyish-brown, increasingly sandy, sandy clay. Noticed brownish oil, strong smell.  Bottom of borehole at 10.0 feet.	10.0
	FOP ( LOGGREMA ( wdd) Old   <1   1.1	GROUND ELETOP OF CASTON OF	GROUND ELEVAT TOP OF CASING OGGED BY S. REMARKS  (wdd) Old  <1 100  1.1 100  1.2 66  <1	GROUND ELEVATION	Company   Comp	COP OF CASING	COP OF CASING	GROUND ELEVATION  TOP OF CASING —  OGGED BY S. Rucknagel  REMARKS   ( (	COP OF CASING	Column   C



## **BORING NUMBER SB-14**

PROD LOCA DRIL SAMI GROU TOP (	JECT NATION LING M PLING I UND EL OF CAS	3300 ETHO METHO EVAT SING S.	East 0 Missi D Di OD C ION	St. I	Louis T ppi Aver Push dinuous	ermina	al ahokia	, Illinois	DATE STARTED 2/14/05  DATE COMPLETED 2/14/05  CASING TYPE/DIAMETER  SCREEN TYPE/SLOT  GRAVEL PACK TYPE  GROUT TYPE/QUANTITY  DEPTH TO WATER  GROUND WATER ELEVATION	
PID (ppm)	BLOW	RECOVERY (%)		EXTENT	[	U.S.C.S.	GRAPHIC LOG	[ (0	LITHOLOGIC DESCRIPTION	CONTACT
5.9		100	CT 1			CL			Brown silty clay, moist.	1.0
1.6		100	CT 2					(2'-4')	Unconsolidated, silty sand.	
13.0		100	СТ 3		5 -	SM			Saturated, silty sand.	
1.6		100	CT 4		- 10				Bottom of borehole at 10.0 feet.	10.0
						j				



## **BORING NUMBER SB-15**

PROD LOCA DRIL SAM GRO TOP LOGG	ATION LING M PLING I UND EL OF CAS GED BY	3300 IETHO METHO EVAT SING S.	East O Missi O Di OD ( ION	St. I ssip irect Cont	Louis Topi Aver Push tinuous	ermina nue, Ca	ıl ahokia,	Illinoi	DATE STARTED 2/15/05  DATE COMPLETED 2/15/05  S CASING TYPE/DIAMETER  SCREEN TYPE/SLOT  GRAVEL PACK TYPE  GROUT TYPE/QUANTITY  DEPTH TO WATER  GROUND WATER ELEVATION	
PID (ppm)	BLOW	RECOVERY (%)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC	COMMENTS	LITHOLOGIC DESCRIPTION	CONTACT
4.5		100	CT 1			CL			Brown, moist, silty clay.  Moist, silty sand, brown.	1.0
4.5		100	CT 4		10			(6'-8')	Saturated, brown, silty sand.  Bottom of borehole at 10.0 feet.	10.0



## BORING NUMBER SB-16 PAGE 1 OF 1

•	PROD LOCA DRIL SAMI GROU TOP	JECT NATION LING M PLING UND EI OF CAS	3300 METHO METHO LEVAT SING	East O Missi D Di OD C ION Ruckn	St. ssip	ppi Aver t Push tinuous	ermina	ahokia	, Illinois	DATE STARTED 2/15/05  DATE COMPLETED 2/15/05  CASING TYPE/DIAMETER  SCREEN TYPE/SLOT  GRAVEL PACK TYPE  GROUT TYPE/QUANTITY  DEPTH TO WATER  GROUND WATER ELEVATION	
	PiD (ppm)	BLOW	RECOVERY (%)	SAMPLE ID.	EXTENT	T	U.S.C.S.	GRAPHIC	(0	LITHOLOGIC DESCRIPTION	CONTACT
	3.1		100	CT 1	I				(0-2')	Gravel.	10
	5.8					- - -	CL			Brown, moist, silty clay.	3.0
	4.9		100	CT 2		- 5 -				Fine grain, dry, unconsolidated sand.	
	4.2		66	СТ 3			SP				
	3.6		50	CT 4			ML			Saturated, sandy silt.	8.0
BORING/WELL CONSTRUCTION FEB B-LOGS.GPJ ATC WELL.GDT 3/31/05						10				Bottom of borehole at 10.0 feet.	



## **BORING NUMBER SB-17**

PRO LOC DRIL SAM GRO TOP LOG	ATION LING M PLING UND EI OF CAS	3300 METHO METHO LEVAT SING Y S.	East O Missi D Di OD C ION Ruckn	St. ssip rect Cont	Louis T pi Aver Push tinuous	ermina	ahokia,	Illinois	DATE STARTED 2/15/05  DATE COMPLETED 2/15/05  CASING TYPE/DIAMETER  SCREEN TYPE/SLOT  GRAVEL PACK TYPE  GROUT TYPE/QUANTITY  DEPTH TO WATER  GROUND WATER ELEVATION	
PID (ppm)	BLOW	RECOVERY (%)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	COMMENTS	LITHOLOGIC DESCRIPTION	CONTACT
3.2		100	CT 1			CL		(2'-4')	Moist, firm, silty sand.	
1.8		100	CT 3		- 5 -	ML			Soft, saturated, sandy silt.	5.0
2.8		100	CT 4		_	SP			Fine grain sand, brown, unconsolidated.  Bottom of borehole at 10.0 feet.	9.0
BORING/WELL CONSTRUCTION FEB B-LOGS.GPJ ATC WELL.GDT 3/31/05										



## BORING NUMBER SB-18 PAGE 1 OF 1

PRO LOC DRII SAM GRO TOP LOC	CATION LLING M IPLING DUND EI OF CAS	IAME  3300 IETHO METHO LEVAT SING S.	East D Missi D Di DD C ION Ruckn	St. I ssip rect Cont	Louis T pi Ave Push inuous	ermina nue, C	al aho <u>kia</u> ,	Illinoi	DATE STARTED _2/15/05  DATE COMPLETED _2/15/05  S	
PID (ppm)	BLOW	RECOVERY (%)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC	COMMENTS	LITHOLOGIC DESCRIPTION	CONTACT
4.7		100	CT 1			CL			Brown, moist, firm, silty clay.	1.0
5.8		100	СТ						Brown, moist, soft, sandy silt.	
4.4		100	2		 - 5 -	ML				
6.3		66	CT 3							
<1		100	СТ 4		 	SP		[8'-10'	Saturated, brown, soft, fine grain sand.	8.0
					10				Bottom of borehole at 10.0 feet.	
25										
VELL.GDT 3/31/										
JGS.GPJ ATC										
TION FEB B-L										
BORING/WELL CONSTRUCTION FEB B-LOGS.GPJ ATC WELL.GDT 3/31/05										
BORING/WE										



### 8233 Brentwood Industrial Drive St. Louis, Missouri 63144 314-644-2500

## **BORING NUMBER SB-19**

PROD LOCA DRIL SAM GRO TOP	ATION LING M PLING I UND EL OF CAS GED BY	AME _ 3300 ETHO METHO EVAT SING _ SS.	East  Missi  D Di  DD C  ION  Ruckni	St. I ssip rect Cont	Louis T ppi Aver Push inuous	ermina	al ahokia	, Illinois	DATE STARTED _ 2/15/05	
PID (ppm)	BLOW	RECOVERY (%)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	COMMENTS	LITHOLOGIC DESCRIPTION	CONTACT
3.8			CT 1		<u> </u>	CL		(0-2')	Brown, moist, silty clay.	1.0
2.6			CT 2		 	ML			Brown, moist, sandy silt.	
3.8					- 5	ļ			Brown, dry, fine grain sand.	4.5
						SP				
2.6			СТ 3						Saturated, brown sandy silt.	7.0
2.1			CT 4			ML				10.0
									Bottom of borehole at 10.0 feet.	
WELL GDT 3/31/05										
IN FEB B-LOGS.GPJ ATC										
BORING/WELL CONSTRUCTION FEB B-LOGS.GPJ ATC WELL GDT 3/3/1/05										

## APPENDIX B

Laboratory Analytical Reports – Soil



### **ANALYTICAL REPORT**

Job Number: 400-202.1

Job Description: COP-ESTL Cahokia, IL

For:

ATC Associates, Inc. 8233 Brentwood Industrial Drive St Louis, MO 63144

Attention: Mr. Patrick King

Marty Edwards

Project Manager I

medwards@stl-inc.com

03/17/2005

The test results in this report meet all NELAP requirements for accredited parameters. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced except in full with written approval from the laboratory.



### **METHOD SUMMARY**

Client: ATC Associates, Inc.

Job Number: 400-202.1

Job Description: COP-ESTL Cahokia, IL

Description	<u>Method</u>	Preparation Method	
Matrix: Solid			
Polychlorinated Biphenyls (PCBs) by Gas Chromatography Ultrasonic Extraction	SW846 8082	SW846 3550B	
Percent Moisture	EPA 160.3		

### **REFERENCES**

EPA - US Environmental Protection Agency

SW846 - "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.



### **SAMPLE SUMMARY**

Client: ATC Associates, Inc.

Job Number: 400-202.1

Job Description: COP-ESTL Cahokia, IL

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
400-202-1	SB-9 (2-4')	Solid	02/14/2005 1150	02/18/2005 0837
400-202-2	SB-11 (6-8')	Solid	02/14/2005 1250	02/18/2005 0837
400-202-3	SB-13 (4-6')	Solid	02/14/2005 1505	02/18/2005 0837
400-202-4	IMP1-1 (2-4')	Solid	02/14/2005 1310	02/18/2005 0837
400-202-5	SB-1 (2-4')	Solid	02/14/2005 1520	02/18/2005 0837
400-202-6	SB-4 (8-10')	Solid	02/14/2005 1610	02/18/2005 0837
400-202-7	SB-5 (6-8')	Solid	02/14/2005 1635	02/18/2005 0837
400-202-8	SB-6 (4-6')	Solid	02/14/2005 1645	02/18/2005 0837
400-202-9	SB-8 (4-6')	Solid	02/15/2005 0845	02/18/2005 0837
400-202-10	SB-16 (0-2')	Solid	02/15/2005 0915	02/18/2005 0837
400-202-11	SB-18 (8-10')	Solid	02/15/2005 1030	02/18/2005 0837
400-202-12	SB-19 (0-2')	Solid	02/15/2005 1235	02/18/2005 0837



## **SAMPLE RESULTS**

STL Pensacola



Client: ATC Associates, Inc.

Job Number: 400-202.1

Client Sample ID:

SB-9 (2-4')

Lab Sample ID: Client Matrix:

400-202-1

Solid

% Moisture: 24.0

Date Sampled: 02/14/2005 1150

Date Received: 02/18/2005 0837

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: Preparation:

Dilution:

8082 3550B

5.0

Date Analyzed: 02/26/2005 0743 Date Prepared: 02/21/2005 0910

Analysis Batch: 400-1902

Instrument ID: NO EQUIPMENT

Prep Batch: 400-818

Lab File ID:

N/A Initial Weight/Volume: 30.00 g

Final Weight/Volume: 10 mL

Injection Volume:

Column ID:

Analyte	Result (ug/Kg)	Qualifier	RL
PCB-1016	<110		110
PCB-1221	<110		110
PCB-1232	<110		110
PCB-1242	<110		110
PCB-1248	2200		110
PCB-1254	<110		110
PCB-1260	<110		110
Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	80	<u></u>	57 - 131
Tetrachloro-m-xylene	75		53 - 123



Client: ATC Associates, Inc. Job Number: 400-202.1

Client Sample ID: SB-11 (6-8')

Lab Sample ID: 400-202-2

Client Matrix: Solid % Moisture: 25.0 Date Sampled: 02/14/2005 1250 Date Received: 02/18/2005 0837

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 400-1902

Instrument ID: NO EQUIPMENT N/A

Preparation: 3550B Dilution: 10

Prep Batch: 400-818

Initial Weight/Volume: 30.11 g Final Weight/Volume: 10 mL

Date Analyzed: 02/26/2005 0801 Date Prepared: 02/21/2005 0910

Injection Volume:

Lab File ID:

Column ID: **PRIMARY** 

Analyte	Result (ug/Kg)	Qualifier	RL
PCB-1016	<230	yyy, yygyyny yygggy, yy ysysiai yessa ar ardinana, ardinadd, sobr ddiddinanddi	230
PCB-1221	<230		230
PCB-1232	<230		230
PCB-1242	<230		230
PCB-1248	5500		230
PCB-1254	<230		230
PCB-1260	<230		230
Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	80	outcomercy accordance, consistence on consistence in grant and	57 - 131
Tetrachloro-m-xylene	100		53 - 123



Job Number: 400-202.1 Client: ATC Associates, Inc.

Client Sample ID:

SB-13 (4-6')

Lab Sample ID: Client Matrix:

400-202-3

Solid

% Moisture: 24.0

Date Sampled: 02/14/2005 1505

Date Received: 02/18/2005 0837

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 400-1902

Instrument ID: NO EQUIPMENT

Preparation:

3550B

Prep Batch: 400-818

Lab File ID: N/A

Dilution:

5.0

Initial Weight/Volume: 30.00 g Final Weight/Volume:

10 mL

Date Analyzed: 02/26/2005 0819 Date Prepared: 02/21/2005 0910

Injection Volume: Column ID:

Analyte	Result (ug/Kg)	Qualifier	RL
PCB-1016	<110		110
PCB-1221	<110		110
PCB-1232	<110		110
PCB-1242	<110		110
PCB-1248	700		110
PCB-1254	<110		110
PCB-1260	<110		110
Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	75	V villa arterid - manasilist tell vilasanakalistost erint sin	57 - 131
Tetrachloro-m-xylene	80		53 - 123



Job Number: 400-202.1 Client: ATC Associates, Inc.

Client Sample ID:

IMP1-1 (2-4')

Lab Sample ID:

400-202-4

Client Matrix:

Solid

% Moisture: 27.0

Date Sampled: 02/14/2005 1310

Date Received: 02/18/2005 0837

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 400-1902

Instrument ID: NO EQUIPMENT

Preparation:

3550B

Prep Batch: 400-818

Lab File ID: N/A

Dilution:

20

Initial Weight/Volume: 30.35 g Final Weight/Volume:

10 mL

Date Prepared: 02/21/2005 0910

Date Analyzed: 02/22/2005 1658

Injection Volume: Column ID:

Analyte	Result (ug/Kg)	Qualifier	RL
PCB-1016	<460	***************************************	460
PCB-1221	<460		460
PCB-1232	<460		460
PCB-1242	<460		460
PCB-1248	2400000		460
PCB-1254	<460		460
PCB-1260	<460		460
Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	240	*	57 - 131
Tetrachloro-m-xylene	1440	*	53 - 123



Client: ATC Associates, Inc. Job Number: 400-202.1

Client Sample ID:

SB-1 (2-4')

Lab Sample ID:

400-202-5

Client Matrix:

Solid

% Moisture: 19.0

Date Sampled: 02/14/2005 1520

Date Received: 02/18/2005 0837

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 400-1902

Instrument ID: NO EQUIPMENT

Preparation:

3550B

Prep Batch: 400-818

Lab File ID: N/A

Dilution: 1.0

Initial Weight/Volume: 30.19 g Final Weight/Volume: 10 mL

Date Analyzed: 02/22/2005 1716 Date Prepared: 02/21/2005 0910

Injection Volume:

**PRIMARY** Column ID:

Analyte	Result (ug/Kg)	Qualifier	RL
PCB-1016	<21	Description of Arthresis and A	21
PCB-1221	<21		21
PCB-1232	<21		21
PCB-1242	<21		21
PCB-1248	<21		21
PCB-1254	<21		21
PCB-1260	<21		21
Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	102	g conserver a managemental de la managemental de la managemental de la conserver de la conserv	57 - 131
Tetrachloro-m-xylene	80		53 - 123



Job Number: 400-202.1

Client Sample ID:

Client: ATC Associates, Inc.

SB-4 (8-10')

Lab Sample ID: Client Matrix:

400-202-6

Solid

% Moisture: 26.0

Date Sampled: 02/14/2005 1610

Date Received: 02/18/2005 0837

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 400-1902

Instrument ID: NO EQUIPMENT

Preparation: Dilution: 3550B 1.0 Prep Batch: 400-818

Lab File ID: N/A

Initial Weight/Volume: 30.10 g Final Weight/Volume: 10 mL

Date Analyzed: 02/22/2005 1734 Date Prepared: 02/21/2005 0910

Injection Volume:

Column ID: PRIMARY

Analyte	Result (ug/Kg)	Qualifier	RL
PCB-1016	<23	er professioners and the control of	23
PCB-1221	<23		23
PCB-1232	<23		23
PCB-1242	<23		23
PCB-1248	<23		23
PCB-1254	<23		23
PCB-1260	<23		23
Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	85	manager (Am. Alex, is, Manager, Spanjacky, in 19 is, 19 ., 2001) a section of an electric par	57 - 131
Tetrachloro-m-xylene	89		53 - 123



Client: ATC Associates, Inc. Job Number: 400-202.1

Client Sample ID:

SB-5 (6-8')

Lab Sample ID:

400-202-7

Client Matrix: Solid

Date Analyzed: 03/01/2005 1706

Date Prepared: 02/21/2005 0910

% Moisture: 28.0

Date Sampled: 02/14/2005 1635

Date Received: 02/18/2005 0837

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: Preparation: 8082 3550B Analysis Batch: 400-1902

Instrument ID: NO EQUIPMENT

Lab File ID:

N/A

Prep Batch: 400-818 Dilution: 20

Initial Weight/Volume: 30.16 g Final Weight/Volume: 10 mL

Injection Volume:

Column ID:

Analyte	Result (ug/Kg)	Qualifier	RL
PCB-1016	<470	grapus yga sammon sayama sam er prosin grotteradosa en glam	470
PCB-1221	<470		470
PCB-1232	<470		470
PCB-1242	<470		470
PCB-1248	47000		470
PCB-1254	<470		470
PCB-1260	<470		470
Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	60	normalis con a se seculo ar value talent Vivolini di discontrata di conse	57 - 131
Tetrachloro-m-xylene	100		53 - 123



Job Number: 400-202.1 Client: ATC Associates, Inc.

Client Sample ID:

SB-6 (4-6')

Lab Sample ID:

400-202-8

Client Matrix: Solid % Moisture: 24.0

Date Sampled: 02/14/2005 1645

Date Received: 02/18/2005 0837

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 400-1902

Instrument ID: NO EQUIPMENT

Preparation:

3550B

Prep Batch: 400-818

Lab File ID: N/A

Dilution:

5.0

Initial Weight/Volume: 30.34 g Final Weight/Volume:

10 mL

Date Prepared: 02/21/2005 0910

Date Analyzed: 02/26/2005 0912

Injection Volume:

Column ID: **PRIMARY** 

Analyte	Result (ug/Kg)	Qualifier	RL
PCB-1016	<110		110
PCB-1221	<110		110
PCB-1232	<110		110
PCB-1242	<110		110
PCB-1248	1700		110
PCB-1254	<110		1 <b>1</b> 0
PCB-1260	<110		110
Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	85	one, une controlleration de la controllerati	57 - 131
Tetrachloro-m-xylene	85		53 - 123



Client: ATC Associates, Inc.

Job Number: 400-202.1

Client Sample ID:

SB-8 (4-6')

Lab Sample ID:

400-202-9

Client Matrix:

Solid

% Moisture: 31.0

Date Sampled: 02/15/2005 0845

Date Received: 02/18/2005 0837

### 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 400-1902

Instrument ID: NO EQUIPMENT

Preparation:

3550B

Prep Batch: 400-818

Lab File ID: N/A

Initial Weight/Volume: 30.31 g

Dilution:

1.0

Final Weight/Volume: 10 mL Injection Volume:

Date Analyzed: 02/22/2005 1845

Date Prepared: 02/21/2005 0910

Column ID:

Analyte	Result (ug/Kg)	Qualifier	RL
PCB-1016	<24		24
PCB-1221	<24		24
PCB-1232	<24		24
PCB-1242	<24		24
PCB-1248	<24		24
PCB-1254	<24		24
PCB-1260	<24		24
Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	90	etterfellen och y silve och selver i prikariske ser skuler bleve skuler beskule i velser för statt för statt f	57 - 131
Tetrachloro-m-xylene	80		53 - 123



Job Number: 400-202.1 Client: ATC Associates, Inc.

Client Sample ID:

SB-16 (0-2')

Lab Sample ID:

400-202-10

Client Matrix: Solid

% Moisture: 17.0

Date Sampled: 02/15/2005 0915

Date Received: 02/18/2005 0837

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 400-1902

<20

Instrument ID: NO EQUIPMENT

Preparation:

3550B

Prep Batch: 400-818

Lab File ID: N/A

Dilution:

Analyte

PCB-1016

Tetrachloro-m-xylene

1.0

Initial Weight/Volume: 30.26 g Final Weight/Volume:

10 mL

Injection Volume:

Column ID:

20

20

20 20

53 - 123

**PRIMARY** 

Date Analyzed: 02/22/2005 1902 Date Prepared: 02/21/2005 0910

> Qualifier RL Result (ug/Kg) 20 20 20

<20 PCB-1221 PCB-1232 <20 PCB-1242 <20 PCB-1248 <20 PCB-1254 <20 PCB-1260 <20

Surrogate %Rec Qualifier Acceptance Limits 57 - 131 DCB Decachlorobiphenyl 126

80



Job Number: 400-202.1 Client: ATC Associates, Inc.

Client Sample ID:

SB-18 (8-10')

Lab Sample ID:

400-202-11

Client Matrix:

Solid

% Moisture: 23.0

Date Sampled: 02/15/2005 1030

Date Received: 02/18/2005 0837

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 400-1902

Instrument ID: NO EQUIPMENT

Preparation: Dilution:

3550B 1.0

Prep Batch: 400-818

Lab File ID: N/A

Initial Weight/Volume: 30.52 g Final Weight/Volume:

Date Analyzed: 02/22/2005 1920 Date Prepared: 02/21/2005 0910

Injection Volume:

Column ID: **PRIMARY** 

Qualifier Analyte Result (ug/Kg) RL PCB-1016 <22 22 22 PCB-1221 <22 PCB-1232 <22 22 PCB-1242 <22 22 PCB-1248 <22 22 PCB-1254 <22 22 PCB-1260 <22 22 %Rec Surrogate Qualifier Acceptance Limits DCB Decachlorobiphenyl 93 57 - 131 Tetrachloro-m-xylene 90 53 - 123



Job Number: 400-202.1 Client: ATC Associates, Inc.

Client Sample ID: SB-19 (0-2')

Lab Sample ID:

400-202-12

Client Matrix:

Solid

% Moisture: 20.0

Date Sampled: 02/15/2005 1235

Date Received: 02/18/2005 0837

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 400-1902

Instrument ID: NO EQUIPMENT N/A

Preparation:

3550B

Prep Batch: 400-818

Lab File ID:

Initial Weight/Volume: 30.36 g

Dilution: Date Analyzed: 02/22/2005 1938

1.0

Final Weight/Volume:

10 mL

Date Prepared: 02/21/2005 0910

Injection Volume:

Column ID: **PRIMARY** 

Analyte	Result (ug/Kg)	Qualifier	RL
PCB-1016	<21		21
PCB-1221	<21		21
PCB-1232	<21		21
PCB-1242	<21		21
PCB-1248	220		21
PCB-1254	<21		21
PCB-1260	<21		21
Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	84	от на стите в Местородии, и стите на продости в население води	57 - 131
Tetrachloro-m-xylene	82		53 - 123



# **QUALITY CONTROL RESULTS**



## **Quality Control Results**

Client: ATC Associates, Inc. Job Number: 400-202.1

Job Description: COP-ESTL Cahokia, IL

## **QC Association Summary**

Lab Sample ID	Client Sample ID	Client Matrix	Method	Prep Batch
GC Semi VOA				
Prep Batch: 400-8	18			
LCS 400-818/14	Lab Control Spike	Solid	3550B	
MB 400-818/13	Method Blank	Solid	3550B	
400-202-A-1-B	SB-9 (2-4')	Solid	3550B	
400-202-A-1-B MS	Matrix Spike	Solid	3550B	
400-202-A-1-B MS	D Matrix Spike Duplicate	Solid	3550B	
400-202-A-2-B	SB-11 (6-8')	Solid	3550B	
400-202-A-3-B	SB-13 (4-6')	Solid	3550B	
400-202-A-4-B	IMP1-1 (2-4')	Solid	3550B	
400-202-A-5-B	SB-1 (2-4')	Solid	3550B	
400-202-A-6-B	SB-4 (8-10')	Solid	3550B	
400-202-A-7-B	SB-5 (6-8')	Solid	3550B	
400-202-A-8-B	SB-6 (4-6')	Solid	3550B	
400-202-A-9-B	SB-8 (4-6')	Solid	3550B	
400-202-A-10-B	SB-16 (0-2')	Solid	3550B	
400-202-A-11-B	SB-18 (8-10')	Solid	3550B	
400-202-A-12-B	SB-19 (0-2')	Solid	3550B	
Analysis Batch:40	0-1902			
LCS 400-818/14	Lab Control Spike	Solid	8082	400-818
MB 400-818/13	Method Blank	Solid	8082	400-818
400-202-A-1-B	SB-9 (2-4')	Solid	8082	400-818
400-202-A-1-B MS	Matrix Spike	Solid	8082	400-818
400-202-A-1-B MSI	O Matrix Spike Duplicate	Solid	8082	400-818
400-202-A-2-B	SB-11 (6-8')	Solid	8082	400-818
400-202-A-3-B	SB-13 (4-6')	Solid	8082	400-818
400-202-A-4-B	IMP1-1 (2-4')	Solid	8082	400-818
400-202-A-5-B	SB-1 (2-4')	Solid	8082	400-818
400-202-A-6-B	SB-4 (8-10')	Solid	8082	400-818
400-202-A-7-B	SB-5 (6-8')	Solid	8082	400-818
400-202-A-8-B	SB-6 (4-6')	Solid	8082	400-818
400-202-A-9-B	SB-8 (4-6')	Solid	8082	400-818
400-202-A-10-B	SB-16 (0-2')	Solid	8082	400-818
400-202-A-11-B	SB-18 (8-10')	Solid	8082	400-818
400-202-A-12-B	SB-19 (0-2')	Solid	8082	400-818



## **Quality Control Results**

Client: ATC Associates, Inc. Job Number: 400-202.1

Job Description: COP-ESTL Cahokia, IL

## **Surrogate Recovery Report**

### 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID	Lab Sample ID	(DCB 1) (%Rec)	(TCX 1) (%Rec)			
IMP1-1 (2-4')	400-202-4	240 *	1440 *			
LCS	LCS 400-818/14	107	103			
МВ	MB 400-818/13	102	102			
SB-1 (2-4')	400-202-5	102	80			
SB-11 (6-8')	400-202-2	80	100			
SB-13 (4-6')	400-202-3	75	80			
SB-16 (0-2')	400-202-10	126	80			
SB-18 (8-10')	400-202-11	93	90			
SB-19 (0-2')	400-202-12	84	82			
SB-4 (8-10')	400-202-6	85	89			
SB-5 (6-8')	400-202-7	60	100			
SB-6 (4-6')	400-202-8	85	85			
SB-8 (4-6')	400-202-9	90	80			
SB-9 (2-4')	400-202-1	80	75			
SB-9 (2-4')-MS	400-202-1-MS	98	90			
SB-9 (2-4')-MSD	400-202-1-MSD	98	80			

Surrogate		Acceptance Limits	
(DCB)	DCB Decachlorobiphenyl	57 - 131	· · · · · · · · · · · · · · · · · · ·
(TCX)	Tetrachloro-m-xylene	53 - 123	

STL Pensacola



### **Quality Control Results**

Job Number: 400-202.1 Client: ATC Associates, Inc.

### 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method Blank - Batch: 400-818

Lab ID: MB 400-818/13

Matrix: Solid Date Analyzed:

ug/Kg

Units:

02/22/2005 1455

Dilution: 1.0

Analyte	Result	Qualifier	RL
PCB-1016	<17		17
PCB-1221	<17		17
PCB-1232	<17		17
PCB-1242	<17		17
PCB-1248	<17		17
PCB-1254	<17		17
PCB-1260	<17		17

Laboratory Control Sample - Batch: 400-818

Lab ID: LCS 400-818/14

Matrix: Solid

Date Analyzed:

02/22/2005 1512

Dilution: 1.0

Units: ug/Kg

	Spike			Recovery	
Analyte	Amount	Result	% Rec.	Limits	Qualifier
PCB-1016	333	360	109	66 - 120	
PCB-1260	333	360	108	67 - 131	

Matrix Spike/Spike Duplicate - Batch: 400-818

MS Lab ID: 400-202-A-1-B MS MSD Lab ID: 400-202-A-1-B MSD

Matrix: Solid

Date Analyzed: Date Analyzed:

02/22/2005 1530 02/22/2005 1548 Dilution: 1.0 Dilution: 1.0

Units: ug/Kg

**RPD** % Recovery % Recovery Analyte MS MSD Limits **RPD** Limit Qualifier PCB-1016 306 51 - 123 10 178 53 PCB-1260 130 192 47 - 130 39 18

Calculations are performed before rounding to avoid round-off errors in calculated results.



### **DATA REPORTING QUALIFIERS**

Client: ATC Associates, Inc.

Job Number: 400-202.1

Lab Section Qualifier Description

GC Semi VOA

\* LCS, LCSD, MS, MSD, MD, or Surrogate exceeds the control

limits

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Chain of **Custody Record**  TRENT SERVICES

Severn Trent Laboratories, Ir Bill to: Eric Petersen Conoco Phillips STL-4124 (0901) Client Project Manager Chain of Custody Number L4861 ASSOCIATES 2-16-05 Address Lab Number 314-644-2500/314-644-4838 BRENTWOOD INO. Page Analysis (Attach list if more space is needed) Sr. Louis Project Name and Location (State) (4085 Special Instructions/ Conditions of Receipt Containers & (ConocePhillips Work Order Matrix Preservatives 8 Sample I.D. No. and Description Date Time Sed Soil Ę (Containers for each sample may be combined on one line) 4 SB-9 2-14-05 1150 2-4 2-14-05 1250 SB-11 X 4-6 2-14-05 1505 ¥ SB-13 1310 2-4' 2-14-05 IMP 1-1 2-41 2-14.05 X X 1520 5B-SB -4 8-10 1610 2-14-05 53-5 6-8 2-14-05 1635 SB-6 1645 2-14-05 4-6 2-15-05 0845 5B-8 5B-16 0-21 2-15-05 0915 2-15-05 58-18 8-10 1030 0-2 1235 2-15-05 5B-19 Sample Disposal Possible Hazard Identification (A fee may be assessed if samples are retained ☑ Unknown Disposal By Lab Skin Irritant Return To Client ☐ Archive For \_ ☐ Non-Hazard ☐ Flammable Poison B longer than 1 month) Turn Around Time Required QC Requirements (Specify) 21 Davs Other, 48 Hours 7 Days 14 Days 24 Hours 1. Relinquished By Time 1. Received By Date 1600 FEDEX 2-16-05 2-16-05 2. Relinquished By Time Received By Date 3. Received By 3. Relinguished By Date Time Comments



### STL PENSACOLA Certifications, Memberships & Affiliations

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL), expires 06/30/05

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater), expires 01/11/05

Arkansas Department of Pollution Control and Ecology, (88-0689) (Environmental), expires 07/01/05

California Department of Health Services, ELAP Laboratory ID No. 2510 (Hazardous Waste and Wastewater), expires 03/31/06

Connecticut Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/05

Florida DOH, NELAP Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater), expires 06/30/05

Florida DEP/DOH CompQAP # 980156

Illinois Environmental Laboratory Accreditation Program (ELAP), NELAP Laboratory ID No. 200041 (Wastewater and Hazardous Waste), expires 10/09/04

Iowa Department of Natural Resources, Laboratory ID No. 367 (Wastewater, UST, Solid Waste, & Contaminated Sites), expires 08/01/04

Kansas Department of Health & Environment, NELAP Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/04

Kentucky NR&EPC, Laboratory ID No. 90043 (Drinking Water), expires 12/31/04

Kentucky Petroleum Storage Tank Env Assurance Fund, Laboratory ID No. 0053 (UST), expires 11/7/05.

Louisiana DEQ, LELAP, NELAP Laboratory ID No. 02075, Agency Interest ID 30748. Environmental, expires 6/30/05

Maryland DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida), expires 12/31/04

Massachusetts DEP, Laboratory ID No. M-FL094 (Wastewater), expires 06/30/05

Michigan Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida), expires 06/30/05

New Hampshire DES ELAP, NELAP Laboratory ID No. 250502 (Drinking Water & Wastewater), expires 08/16/05

New Jersey DEP&E, NELAP Laboratory ID No. FL006 (Wastewater and Hazardous Waster), expires 06/30/05.

North Carolina DENR, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/04.

North Dakota DH&Consol Labs, Laboratory ID No. R-108 Wastewater and Hazardous Waste by Reciprocity with Arizona), expires 06/30/04

Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater), expires 08/31/05

Pennsylvania Department of Environmental Resources, NELAP Laboratory ID No. 68-467 (Drinking Water & Wastewater), expires 12/01/04

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater & Solids/Hazardous Waste by Reciprocity with FL), expires 06/30/05

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water), expires 08/03/04

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL), expires 06/30/05

West Virginia DOE, Office of Water Resources, Laboratory ID No. 136 (Haz Waste and Wastewater), expires 04/30/05.

EPA ICR (Information Collection Rule) Approved Laboratory, Laboratory ID No. ICRFL031

NFESC (Naval Facilities Engineering Services Center), expires September 7, 2004.

USACE (United States Army Corps. of Engineers), MRD, expires July 16, 2005.

STL Pensacola also has a foreign soil permit to accept soils from locations other than the continental United States. Permit No. S-37599 certlist\condcert.lst revised 9/29/04

## Chain of Custody Record

Bill to: Eric Petersen Conoco Phillips

SEVERN
TRENT
SERVICES

400-205400-185

Severn Trent Laboratories, Inc.

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### Subsurface Investigation Report Rogers Cartage Site 3300 Mississippi Avenue Cahokia, Illinois

## APPENDIX C

Site Safety Plan

(ATC maintains a copy of the Site specific Health and Safety Plan. Arrangements for ConocoPhillips to view this plan can be made by contacting Pat King.)